

## ABSTRACT

The preferred embodiment of the present invention is an inertial filtering device for filtering riverbed silt in a contained underwater environment comprising an enclosure to be placed underwater on a riverbed. The enclosure has at least one entrance opening located in the enclosure for allowing river water carrying riverbed silt to flow into the entrance opening. A chute for directing the river water upwards through the enclosure is also included in the enclosure. An exit opening is located at the top of the enclosure for exiting the river water. A hole is located in the chute for transiting particulate matter from the silt via gravity to the bottom of the enclosure while allowing the river water to proceed up the chute to the exit opening; and a suction device is connected to the bottom of the enclosure for suctioning out any matter collected in the bottom of the enclosure including PCBs or other pollutants.